



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,156	05/19/2006	Toshihiro Tomita	65632 (71719)	8056
21874 7590 05/13/2008 EDWARDS ANGELL PALMER & DODGE LLP P.O. BOX 55874 BOSTON, MA 02205				
EXAMINER				
KHANNA, MADHU				
ART UNIT		PAPER NUMBER		
2151				
MAIL DATE		DELIVERY MODE		
05/13/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,156

Applicant(s)

TOMITA ET AL.

Examiner

MADHU KHANNA

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☐ Claim(s) _____ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/ISD)
Paper No(s)/Mail Date 05/19/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to under 37 CFR 1.75(c) as being improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

2. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n). Claims 11 and 15 do not comply. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 3-9, 12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake et al. (Pub. No.: US 2001/0042118) (referred to as Miyake hereafter) in view of Forslow (US Patent # 6,954,790).

Regarding claim 1, Miyake teaches a control system established through a network, the control system comprising:

a management node (31, 32, and 33 of FIG. 3) for monitoring and operating the system component nodes (34 of FIG. 3) through the network and managing control of the whole control system (FIG. 3 generally illustrates the configuration of a network operation/management system, [0088]), wherein

the management node includes:

a communication section for performing communication through the network (e.g. a communication I/O interface controller 614, [0100]);

a storage section for storing definition information of the system component nodes (device setting information) (e.g. 321 of FIG. 3, [0088]);

a display section for displaying an operation and monitor screen (e.g. display device 56 of FIG. 5, [0099]);

a definition information generation section (device control procedure creating module 324, [0096]) for generating the definition information (device setting information) based on the global address (object ID, [0118]), the attribute information (e.g. types of the devices, [0103]) and the position information (a position on an associated coordinate system, [0118]) which are acquired through the network (the device control procedure creating module 324 acquires the device information, [0096]), and for storing the definition information in the storage section (stores the acquired device information in the device setting information database 321, [0096]);

a screen generation section (3D display processing module) for making the display section display the operation and monitor screen of the system component nodes (3D display processing module 321 for implementing the capability of displaying a network topology situation for a network manager, [0089]) from the definition information in the storage section (a database control module 323 for implementing database control functions for controlling necessary information for producing displays on the management console 31, [0091]); and

a control function providing section (e.g. database control module 323) for reading information defining an operation of the system component node from the storage section (for implementing database control functions for controlling necessary information for producing displays on the management console 31), and for outputting the read information to the communication section (a SNMP manager module 325 for actually performing control operations to the controlled device 34) [0091].

Miyake does not explicitly disclose component nodes generating a unique global address or transmitting the generated global address, attribute information of the system component node and installation position information of the system component node, to the network.

Forslow teaches a plurality of system component nodes (mobile clients) each having a communication section for generating a unique global address by the system component node itself upon connection to the network (the mobile client 20 can alternatively generate its own IP address, column 19 lines 9-10), and for transmitting the generated global address (network address identifier), attribute information of the system component node (e.g. response to the challenge) (the mobile client 20 includes its network address identifier (NAI) and a response to the challenge in the registration request, column 20 lines 10-12) and installation position information of the system component node (service location protocols between the mobile client 20 and the mobile service router 10, column 9 lines 44-46), to the network.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize self address generation and transmission of device information by the managed device in the system/method of Miyake as suggested by Forslow in order to alleviate the managing node from having to assign addresses for each added node and using resources to acquire the required information. One of ordinary skill would recognize that obtaining this particular information is essential in managing a secure network, but that requiring the managing node to monitor, operate and gather the data increases the potential causes for errors in the system. One would

be motivated to combine these teachings because automatically providing the management system with the necessary information would result in continued efficiency of management over a network including mobile devices to be managed, thus expanding the capabilities of the system.

Regarding claim 3, Miyake teaches the control system as claimed in claim 1, wherein the definition information (device setting information) includes the global address (object ID, [0118]), an installation position (a position on an associated coordinate system, [0118]), a tag (object identifier, [0118]), a control function (notifies the manager 32 of the acquired MIB value (step 851); the result is registered in the device setting information database, [0103]) and a configuration of the operation and monitor screen of the system component node (e.g. the object ID of another object to be connected to an object on each network layer in the network, [0118]).

Regarding claim 4, Miyake teaches the control system as claimed in claim 1, wherein the definition information generation section (the device control procedure creating module 342) has an attribute information determination section (MIB value acquisition sequence) for determining validity of the attribute information (confirming whether or not a new controller device exists) [0103].

Regarding claim 5, Miyake teaches the control system as claimed in claim 1 [[or 4]], wherein the attribute information includes at least one of a type (e.g. types of the

devices, [0103]), a manufacturer, a model and a serial number of the system component node.

Regarding claim 6, the control system as claimed in claim 1, wherein each of the communication section of the system component node (mobile client) and the communication section of the management node (e.g. configuration server) [[have]] has an address generation section for generating a unique global address (the mobile client 20 can alternatively generate its own IP address, column 18 lines 9-10; the configuration server 146 maintains an IP address pool from which it can allocate addresses, column 18 lines 1-2).

Regarding claim 7, Forsl w teaches the control system as claimed in claim 1, wherein each of the communication section[[s]] of the system component node (mobile client) and the communication section of the management node (e.g. MSR) performs packet communication (e.g. the client's MSR 10 can handle the packets that are sent from the mobile client 20, column 10 lines 54-56).

Regarding claim 8, Forsl w the control system as claimed in claim 7, wherein the communication section has an authentication section for adding authentication data to a header of a packet (the home agent redirects packets from the home network to the care-of address by constructing a new IP header, column 4 lines 5-9), and determining validity of the received packet according to the authentication data added to the packet

(at the foreign agent the new "routing" header is removed and the original packet is sent to the mobile client for properly processing, column 4 lines 16-18).

Regarding claim 9, Forslów the control system as claimed in claim 7, wherein the communication section has a cryptograph processing section for encrypting a packet (IPSec component 100a is performing per packet authentication (AH) and/or encryption (ESP) for the traffic crossing the MVPN tunnel, column 14 lines 45-49).

Regarding claim 11, Forslów the control system as claimed claim[[s]] 6 [[to 10]], wherein Internet protocol specification IPv6 is used as a communication protocol for connecting to the network (e.g. in an IPv6 network, column 18 lines 8-10).

Regarding claim 12, Forslów the control system as claimed in claim 1, wherein the system component node (mobile client) has a position detection section for detecting the installation position (e.g. the mobile client 20 may use a spatial location protocol to determine the geographic position of itself, column 12 lines 24-27).

Regarding claim 14, Miyake teaches the control system as claimed in claim 1, wherein the network has a switching hub (ATM switch 1012 of FIG. 10, [0108], and
the system component node (e.g. 1015a-1015f of FIG. 10) is connected to the switching hub (FIG. 10).

Art Unit: 2157

Regarding claim 16, the control system as claimed in claim 1, wherein the management node performs communication with the system component node through the network (e.g. the SNMP manager or any alternative means issues a SNMP command or an alternative command to the respective controlled devices, [0105]).

4. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake-Forslow in view of Kim (US Patent # 6,670,909).

Regarding claim 2, although Miyake- Forslow teach that the controlled device can be any network apparatus, Miyake- Forslow do not explicitly disclose the controlled device being a sensor, an actuator or a controller.

Kim teaches the control system as claimed in claim 1, wherein the system component nodes are at least one of a sensor (the network 900 includes a sensor 902, column 19 lines 12-13), an actuator and a controller.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize sensors as the controlled devices in the system/method of Miyake-Forslow as suggested by Kim in order to expand the possible uses for the management system. One of ordinary skill would recognize given the teachings of Miyake-Forslow for a system capable of monitoring and controlling various types of devices, that sensors would be an obvious type of device to be controlled. One would

be motivated to combine these teachings because it would enable the system to control and monitor the environment within a building.

Regarding claim 13, Kim teaches the control system as claimed in claim 12, wherein the position detection section detects the position using radio waves or ultrasonic waves (capabilities of radio technology also enable the positions of the sensors 902 to be determined, column 21 lines 40-42).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake-Forslow in view of Davies (US Patent # 6,058,420).

Regarding claim 10, Forslow teaches the control system as claimed in claim 7, wherein the communication section of the system component node (mobile client node) multicasts a packet to all of the management node and the system component nodes connected to the system (the mobile client may also broadcast or multicast an advertisement solicitation), and

the communication section of the management node receives the multicasted packet and sends a response to the received packet to the system component node (answered by any foreign agent that receives it, column 4 line 25-27). However, Miyake-Forslow do not explicitly disclose that the packet includes an address.

Davies teaches including the generated global address as a source address (the general format of a message is "command=value" where Command is one of several commands defined in the communications architecture and Value is an attribute, such as an IP address, column 7 lines 63-66).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize including an address in a transmitted packet in the system/method of Miyake-Forslow as suggested by Davies in order to provide an identification of the sender. One of ordinary skill would recognize that including a source address in a packet is standard for most protocols. One would be motivated to combine these teachings because including this information, particular in a broadcast or multicast, conveys necessary information to the receiver regarding the transmitted data and how to reply if necessary.

6. Claim 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake-Forslow-Kim in view of Davies.

Regarding claim 15, Kim teaches controlling a network including sensors (the network 900 includes a sensor 902, column 19 lines 12-13). However, Miyake-Forslow-Kim does not teach a controller learning an appropriate control function by performing transmission and reception to the said sensors, transmitting this information to the

management node and the management node updating definition information based on the received information.

Davies teaches the control system as claimed in claim 2, wherein the controller (polling module) has a self-learning section for learning more appropriate control function by performing transmission and reception to and from the interfaces (polling module 603 in preferred embodiments sends out SNMP Get Request 621 and tracks the responses, column 9 lines 16-18), and transmits the learned control function to the management node (reports each interface's status separately to server module 501, column 9 lines 22-24), and

the definition information generation section of the management node (server module) generates the definition information according to the control function from the controller (poller module) (e.g. on receipt of an alarm message from either poller module 503A or 503B, server module 501 sends the interface to a Test Point, column 13 lines 14-17).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to utilize a polling module in the system/method of Miyake-Forslöv-Kim as suggested by Davies in order to alleviate the controlling server from having to constantly monitor all of the controlled devices. One would be motivated to combine these teachings because in doing so a larger number of devices could be controlled by utilizing a hierarchical management system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MADHU KHANNA whose telephone number is (571)270-3629. The examiner can normally be reached on Monday-Thursday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. K./
Examiner, Art Unit 2151
/Salad Abdullahi/
Primary Examiner, Art Unit 2157